



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,990	12/31/2001	Ching-Chuan Chao	MR3029-8	6190

4586 7590 12/07/2004

ROSENBERG, KLEIN & LEE  
3458 ELLICOTT CENTER DRIVE-SUITE 101  
ELLICOTT CITY, MD 21043

EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
----------	--------------

2674

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/029,990	<b>Applicant(s)</b> CHAO ET AL.	
	<b>Examiner</b> Regina Liang	<b>Art Unit</b> 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-34 is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 102***

2. Claims 1-3, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kannan et al (US. PAT. NO. 5,329,625 hereinafter Kannan).

As to claim 1-3, Figs. 1, 2 of Kannan discloses a computer peripheral input system with two input types, comprising a keyboard device (20) for inputting a first input data and generating a first input signal, a digitizer tablet device (14, 18) for inputting a second input data and generating a second input data, a control means (Fig. 2) having communication interface (service processor 24) installed therein and serving for reading and processing the first input signal and the second input signal, and storing a first and second information represents the first input data and the second information represents the second input data, and the communication interface serving for sending the first information and the second information stored in the control means to a computer host (130) by a polling method (col. 4, line 33 to col. 6, line 25 for example).

As to claim 14, Kannan teaches the control means comprising a micro-controller.

***Claim Rejections - 35 USC § 103***

3. Claims 4-6, 8, 9, 12, 19-22, 25, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan in view of Abernethy (US. PAT. NO. 5,525,981).

As to claims 6, 19, Kannan discloses the second input signal (digitizer tablet device) having a second digital signal, and the second digital signal is processed to a coordinative data corresponding to the second input data by the control means. Kannan does not disclose the second input signal having a first digital signal, and the first digital signal is processed to a pressure data or a button status data. However, Abernethy teaches a digitizer tablet device generating a pressure data or a button status data. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the second input signal of Kannan to have a first digital signal (pressure or button signal) as taught by Abernethy so as to provide a digitizer tablet device generating pressure/button information signals such as buttons pushed, pen pressure, or the like.

As to claims 4, 5, 20, 21, Kannan teaches the digitizer system comprising a digitizer tablet. Abernethy teaches a plurality of pointing devices comprising a cordless pen, a puck. Kannan as modified by Abernethy does not disclose the pointing devices comprising a cordless mouse. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pointing devices of Kannan as modified by Abernethy to have a cordless mouse so as to provide additional input devices to input position information.

As to claims 8, 12, 22, Fig. 2 of Abernethy teaches the processing unit comprising pressure signal waveform generation circuits for generating the first digital signal (button press signal). Col. 3, lines 1-21 of Kannan teaches the processing unit comprising position signal waveform generation circuits and an analog to digital convert circuit for generating the second digital signal (coordinate position signal).

As to claims 9, 25, Fig. 1 of Abernethy teaches a counter (7) for determining a frequency of the first digital signal (pressure or button signal).

As to claim 27, Kannan teaches the control means comprising a micro-controller.

4. Claims 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan in view of Thornton (US. PAT. NO. 6,735,658).

As to claim 15, Kannan does not explicitly disclose the communication interface comprising a USB interface. However, Thornton teaches it is well known in the art that a Universal Serial Bus (USB) is a serial bus standard that provides a method of coupling peripheral devices to a computer system (see col. 1, lines 16-16-18, col. 2, lines 3-13 of for example). Thornton also teaches the USB peripherals include keyboard, mouse, tablet, light pen, etc. (col. 1, lines 35-38). Thus, in view of Thornton's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication interface of Kannan to use a USB interface as taught by Thornton since the USB technology greatly simplify the complex cabling that typically spills out from the back of personal computers, and the USB interface allows many devices to be daisy-chained with a single standard connector and reduces both the response time and the data traffic between the host computer system and the peripheral device.

As to claim 16, Thornton teaches the USB interface has endpoints (col. 2, line 53 to col. 3, line 27). Kannan as modified by Thornton does not disclose the endpoints have an endpoint 0 and an endpoint 1. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the USB interface of Kannan as modified by Thornton to

Art Unit: 2674

comprise endpoints 0 and 1 to uniquely define each device that's connected using the USB in order to distinguish each connected device and data from that particular connected device.

5. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan and Abernethy as applied to claim 19 above, and further in view of Thornton.

As to claim 28, Kannan as modified by Abernethy does not explicitly disclose the communication interface comprising a USB interface. However, Thornton teaches it is well known in the art that a Universal Serial Bus (USB) is a serial bus standard that provides a method of coupling peripheral devices to a computer system (see col. 1, lines 16-16-18, col. 2, lines 3-13 of for example). Thornton also teaches the USB peripherals include keyboard, mouse, tablet, light pen, etc. (col. 1, lines 35-38). Thus, in view of Thornton's teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication interface of Kannan as modified by Abernethy to use a USB interface as taught by Thornton since the USB technology greatly simplify the complex cabling that typically spills out from the back of personal computers, and the USB interface allows many devices to be daisy-chained with a single standard connector and reduces both the response time and the data traffic between the host computer system and the peripheral device.

As to claim 29, Thornton teaches the USB interface has endpoints (col. 2, line 53 to col. 3, line 27). Kannan as modified by Abernethy and Thornton does not disclose the endpoints have an endpoint 0 and an endpoint 1. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the USB interface of Kannan as modified by Abernethy and Thornton to comprise endpoints 0 and 1 to uniquely define each

Art Unit: 2674

device that's connected using the USB in order to distinguish each connected device and data from that particular connected device.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan and Abernethy as applied to claim 6 above, and further in view of Cheng et al (US. PAT. NO. 5,365,253 hereinafter Cheng).

Kannan as modified by Abernethy does not disclose the processing unit comprises amplifier and filter circuits for amplifying the second input signal (digitizer tablet signal) and eliminating noises. However, Cheng teaches a digitizer tablet device having a processing unit comprising amplifier and filter circuits (10, 12) for amplifying digitizer tablet signal and eliminating noises. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the processing unit of Kannan as modified by Abernethy to have amplifier and filter circuits as taught by Cheng to eliminate outside noises so as to prevent a misuse.

7. Claims 10, 11, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan and Abernethy as applied to claims 6 and 19 above, and further in view of Mletzko (US. PAT. NO. 4,992,630).

As to claims 10, 23, Kannan as modified by Abernethy does not disclose the pressure signal waveform generation circuits comprising a comparator circuit. However, Fig. 4 of Mletzko teaches a pressure signal waveform generation circuits comprising a comparator circuit (32). Thus it would have been obvious to one of ordinary skill in the art at the time the invention

Art Unit: 2674

was made to modify the pressure signal waveform generation circuits of Kannan as modified by Abernethy to include a comparator circuit as taught by Mletzko so as to provide a low-cost tablet for varying the stylus proximity and pressure threshold levels for operation by the tablet user.

As to claims 11, 24, Abernethy teaches the first digital signal is a clock signal (9).

8. Claims 13, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan and Abernethy as applied to claims 6, 19 above, and further in view of Chao et al (US. PAT. NO. 6,180,894 hereinafter Chao).

Kannan as modified by Abernethy does not disclose the position signal waveform generation circuits comprising a rectifier circuit and a peak detector circuit. However, Fig. 2 of Chao teaches a position waveform generation circuits comprising a rectifier peak detector circuits (206). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the position signal waveform generation circuits of Kannan as modified by Abernethy comprising a rectifier circuit and a peak detector circuit as taught by Chao so as to provide a digitizer tablet system can increase operation accuracy.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan in view of Niedzwiecki (US. PAT. NO. 5,896,125).

As to claim 17, Kannan does not disclose a keyboard light emitting diode indicator. However, Niedzwiecki teaches a keyboard device comprising a LED indicator (24). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to



Art Unit: 2674

modify the keyboard device of Kannan to have a LED indicator as taught by Niedzwiecki to provide an illuminated indication at various stages of operation.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kannan and Abernethy as applied to claim 4 above, and further in view of Niedzwiecki (US. PAT. NO. 5,896,125).

As to claim 18, Kannan as modified by Abernethy does not disclose a light emitting diode indicator. However, Niedzwiecki teaches a keyboard device comprising a LED indicator (24). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the keyboard device of Kannan as modified by Abernethy to have a LED indicator as taught by Niedzwiecki to provide an illuminated indication at various stages of operation.

Kannan as modified by Abernethy and Niedzwiecki does not disclose a tablet LED indicator. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kannan as modified by Abernethy and Niedzwiecki to have a tablet LED indicator in the same manner as the keyboard indicator such that illuminated indication showing which input device is in use and the various stages of operation is made aware to the user.

***Allowable Subject Matter***

11. Claims 30-34 are allowed.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' remarks regarding Kannan on pages 2-5 are not persuasive since applicants are reading limitations into the claims. It is noted that the features upon which applicant relies (i.e., "USB served as a message communication channel between the micro-controller and computer host", "keyboard device and the digitizer tablet system can "share" the universal serial bus interface merely having an endpoint 0 and an endpoint 1", and "the endpoint 0 of the USB is used for receiving and sending data, and the endpoint 1 of USB is user for merely sending data", etc., on page 4 of applicants' remarks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As discussed in the rejection above, Kannan discloses a computer peripheral input system with two input types (keyboard device 20, digitizer tablet device 14, 18), a control means (Fig. 2) having communication interface (service processor 24) installed therein and serving for reading and processing the first input signal from the keyboard device and the second input signal from the digitizer tablet device, and storing a first and second information represents the first input data and the second information represents the second input data, and the communication interface serving for sending the first information and the second information stored in the control means to a computer host by a polling method (col. 4, line 33 to col. 6, line 25 for example) as claimed. Therefore, Kannan meets the claims.

Applicants' allegation on pages 5-6 that "Abernethy et al did not disclosed the keyboard serving for inputting first input data, and generates a first input signal (actuated key data); and a digitizer tablet devices serving for inputting a second input data, and generating a second input signal. In addition, Abernethy et al did not disclose the transforming the second input signal to a first digital signal and a second digital signal" are not persuasive. The first input data inputting from a keyboard is taught by Kannan. Kannan also teaches the second input device (digitizer tablet device) inputting a second input data having a second digital signal, and the second digital signal is processed to a coordinative data corresponding to the second input data by the control means. Abernethy is used to teach the digitizer tablet device generating a pressure data or a button status data (first digital signal). Applicants cannot show non-obviousness by attacking references individually where, as here the rejections are based on combination of references.

Applicants' remarks regarding Thornton on pages 7-8 are not persuasive. Kannan teaches "SP 24 interfaces with the host processor over bus 60 via a standard PS/2 keyboard controller interface modified to support the digitizer and power subsystem. SP 24 interfaces with host processor 22 through a PS/2 keyboard interface as more fully described in the above related application (3), with keyboard 20 over a standard PS/2 keyboard interface, with digitizer 16 over an interrupt driven serial interface, and with power subsystem 78 over a polled serial interface similar to the keyboard interface" (col. 5, line 65 to col. 5, line 6). Therefore, Kannan's SP 24 (service processor 24) reads on the control means having a communication interface interfacing the computer peripheral system to a host computer. Thornton teaches using Universal Serial Bus (USB) for a communication interface for coupling computer peripheral devices to a computer

Art Unit: 2674

system. Thus, Kannan as modified by Thornton would comprise a USB interface thereby rendering the claims obvious.


Applicants argue that "Cheng did not disclose the signal that is generated from keyboard" on pages 8-9, are not persuasive. Cheng is used to teach a digitizer tablet device having a processing unit comprising amplifier and filter circuit for amplifying digitizer tablet signal and eliminating noises. Note the rejection above.

Applicants' remarks regarding Mletzko, Chao, Niedzwiechi on pages 9-10 are not persuasive, see the rejection above.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (703) 305-4719. The examiner can normally be reached on Monday-Friday from 9AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
REGINA LIANG  
PRIMARY EXAMINER  
ART UNIT 2674

RL  
12/2/04